WHAT IS CLAIMED IS:

1. An image distortion compensating apparatus which controls a convergence yoke, comprising:

a compensation value generator for calculating a convergence compensation value for compensating a convergence distortion which occurs while an image signal is emitted onto a display apparatus, the compensation value generator outputting the convergence compensation value after compensating for a phase and a gain of the convergence yoke;

an amplifier for a D-class amplifying of the convergence compensation value; and

a convergence yoke for controlling a path of electron beams corresponding to the image signal, based on the convergence compensation value as amplified at the amplifier.

2. The image distortion compensating apparatus of claim 1, further comprising a feedback sensor provided between the convergence yoke and the compensation value generator, for reducing a noise outputted from the convergence yoke through a differential amplification.

3. The image distortion compensation apparatus of claim 2, wherein the compensation value generator comprises:

a convergence module for synchronizing to a horizontal synchronization signal and a vertical synchronization signal applied to the display apparatus and outputting a predetermined convergence distortion value;

a triangular wave generator for generating a triangular wave;

a combiner for combining the convergence distortion value and an output from the feedback sensor;

a comparator for comparing the convergence distortion value outputted from the combiner with a phase level of the triangular wave; and

a pulse generator for generating the convergence compensation value in the form of a pulse width modulating signal based on the comparison result from the comparator.

4. The image distortion compensating apparatus of claim 3, wherein the combiner comprises:

a first resistor for being inputted with an output from the feedback sensor;

an operational amplifier for being inputted with an output from the first resistor as a negative input and the convergence distortion value as a positive input;

a second resistor and a first capacitor, both of which are connected in series between a negative input terminal and an output terminal of the operational amplifier; and

a second capacitor and a third resistor, both of which are connected in parallel between the negative input terminal and the output terminal of the operational amplifier.

5. The image distortion compensating apparatus of claim 4, wherein the combiner has a transfer function of,

$$H(S)=\frac{Z3}{R1}=\frac{R3\cdot R2\cdot C1S+R3}{R1\cdot R2\cdot R3\cdot C1\cdot C2S^2+(R1\cdot R3\cdot C2+R1\cdot R2\cdot C1+R1\cdot R3\cdot C1)S+R1}$$

6. The image distortion compensating apparatus of claim 5, wherein the transfer function of the combiner has the control characteristic of 2-pole and 1-zero.

7. The image distortion compensating apparatus of claim 6, further comprising a low pass filter provided between the amplifier and the convergence yoke, for reducing the noise of the amplifier by a predetermined amount in accordance with a predetermined value.

8. An image distortion compensating method for controlling a convergence yoke, comprising the steps of:

calculating a convergence compensation value for compensating a convergence distortion which occurs while an image signal is emitted onto a display apparatus in consideration of a phase and a gain of the convergence yoke;

D-class amplifying in response to the convergence compensation value; and

forming a predetermined magnetic field by the D-class amplification, and controlling a path of electron beams corresponding to the image signal by the magnetic field as formed.

9. The image distortion compensating method of claim 1, further comprising the step of removing a noise from an electric current forming the magnetic field.

10. The image distortion compensating method of claim 9, wherein the step of D-class amplifying further comprises the step of low pass filtering the amplified convergence compensation value.